L 16790-66 EWP(e)/EWT(m) WH

ACC NR: AP6002541 (A) SOURCE CODE: UR/0286/65/000/023/0041/0042

AUTHORS: Rogozhin, Yu. V.; Syritskaya, Z. M.; Ushanova, A. V.; Mazurov, M. K.; Zadorozhnyy, V. K.; Ignat'yev, O. S.; Goroshchenko, Ya. G.

ORG: none

TITLE: A method for preparing titanium-containing enamels and glassy crystalline materials. Class 32, No. 176663

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 23, 1965, 41-42

TOPIC TAGS: titanium, enamel, sphene, perovskite, crystalline matter, specialized coating, ceramic coating

ABSTRACT: This Author Certificate presents a method for preparing titanium-containing enamels and glassy crystalline materials. To broaden the base of raw materials and to improve the physico-chemical properties of enamels and glassy crystalline material, the minerals sphene and perovskite are introduced into the original charge.

SUB CODE: 07, 13/ SUBM DATE: 09Aug62

Card 1/1 UDC: 666.293.5

82824

S/115/60/000/007/008/011
B019/B058

9.6000

AUTHORS: Mazurov, M. Ye., Prudnikov, I. N.

TITLE: The Measurement of Direct and Alternating Currents by Means of the Hall Effect

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 7, pp. 45 - 46

TEXT: If an alternating current flows through a magnetic coil and a Hall pickup, both connected in series, formula (1)

$U_x = kI^2 + kI^2 \cdot \cos 2\omega t$ is valid for the Hall voltage, as is well known. (1)

It may be seen from this relation that the Hall voltage has a constant component which can be measured by means of a millivoltmeter. This constant component of the Hall voltage can be used for the measurement of an alternating current. The small quantity of the constant voltage component and the nonlinear dependence of this voltage component on the current measured are the drawbacks of such an instrument. The frequency range to which this instrument can be used is limited by the coil inductance, and a radical method for the reduction of this coil inductance

Card 1/2

The Measurement of Direct and Alternating Currents by Means of the Hall Effect

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B019/B058

by using a ferromagnetic core is mentioned. Furthermore, the influence of foreign magnetic fields is prevented by using two pickups. The frequency range can be further widened by means of a correction link (Fig. 3), consisting of a resistance and a capacitance. The compensation of the temperature error by using the negative temperature coefficient of the material of the Hall pickup, is dealt with next. The authors finally discuss such an instrument, the circuit of which is shown in Fig. 4. The 3 measuring ranges are 2.5, 5, and 10 a, the frequency ranges from 0 to 100 kilocycles, the error amounts to 3.5%, and the temperature error amounts to 1% in the range of from 10 to 40°C. There are 4 figures and 2 Soviet references.

44

Card 2/2

ANDREYEV, V.S.; MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Use of the Hall effect in frequency dividers. Elektrosviaz' 14 no.9:12-19 S '60. (MIRA 13:9)
(Frequency changers) (Hall effect)

9,4370
18 8100 1413, 1530, 1496

26453
S/115/61/000/007/004/004
E073/E535

AUTHORS: Andreyev, V. S., Mazurov, M.Ye. and Prudnikov, I.N.

TITLE: Application of the Hall effect for investigating the properties of cores of ferromagnetic materials

PERIODICAL: Izmeritel'naya tekhnika, 1961, No.7, pp.36-37

TEXT: Various authors have suggested using the Hall effect for recording the dynamic magnetization curve of ferromagnetics. However, the Hall constant of the used ferromagnetic materials was too low to achieve a satisfactory sensitivity. The authors propose using special semiconductor Hall pick-ups for investigating the magnetic characteristics of closed specimens and of specimens with air gaps. A sketch, Fig.1, is reproduced showing an arrangement for specimens with air gaps in which the output from the Hall pick-up is fed to an oscillograph. In such circuits the reluctance of the magnetic circuit without the air gap must be much higher than the reluct ance of the air gap. A sketch, Fig.2, is also shown of a circuit for investigating specimens of simple geometrical shape in which a part of the magnetic circuit 1 is made of material with a high permeability and high saturation

Card 1/3

induction, whilst another part 2 is of a simple shape and is formed by the specimen under investigation. To reduce the air gap to a minimum, the author recommends using pick-ups in the form of thin films. The various sources of error are briefly enumerated, mentioning that they have been dealt with in greater detail in another paper of the authors (Ref.6: Trudy uchebnykh institutov svyazi, 1961, No.1). By good design and satisfactory compensation the accuracy of this method can be increased to be comparable with the accuracy of instruments based on other principles. The method was applied for cores of various materials (transformer steel, permalloy and ferrites). Due to the extremely low inertia, Hall pick-ups can be used for determining the magnetization curve up to very high frequencies. By using low frequency generators and oscillographs, this method permits determining the characteristics of materials which are near to the static characteristic , for instance, curves recorded at a frequency of 15 c.p.s. differ from curves recorded with d.c. by only 1 to 2%. There are 2 figures and 6 references: all Soviet.

34675
S/115/62/000/003/009/010
E192/E382

24.2200 (1068, 1147, 1482)

AUTHOR Mazurov, M.Ye.

TITLE The induction method of measuring alternating magnetic fields

PERIODICAL: Izmeritel'naya tekhnika, no. 2, 1962, 42 - 44

TEXT. The induction method of measuring the strength of alternating magnetic fields permits the design of a measuring instrument which has the merits of devices based on galvanomagnetic effects and none of their disadvantages (Ref. 4 - the author - Author's Certificate - no. 130112, 21e, 12. Byulleten' izobreteniy, 1960, no. 14). The electrical circuit of such an instrument is shown in the figure. The instrument consists of an induction pick-up 1 of the magnetic field, which is in the form of a flat coil having n turns of wire, an integrating network R', L or R" and an output-voltage indicator (for example, an AC millivoltmeter). When the induction pick-up is inserted in the alternating magnetic fields H, the e.m.f. induced at the output terminals of the pick-up is given by

Card 1/5

$$E = nS\omega H_m \cos \omega t \cos \varphi \qquad (1)$$

where H_m is the amplitude of the magnetic field,
S the area of the induction pick-up,
ω is the frequency of the magnetic field and
φ is the angle between the magnetic-field vector and the normal to the plane of the pick-up coil.

In general, it is necessary to keep $\cos \varphi = 1$ in order to obtain the largest possible amplitude of the output voltage. It is seen from Eq. (1) that E is proportional not only to H_m but also ω. Consequently, an integrating network is introduced in order to eliminate the frequency dependence of the output signal. If the network consists of R and L (the inductance L of the pick-up being neglected), the amplitude of the output signal can be expressed as:

The induction method of . .

$$U_1' = \frac{nS\omega H_m R'}{R' + r' + j\omega L'} \qquad (2)$$

where r' is the ohmic resistance of the pick-up If

$$\omega L \gg R' + r' \qquad (3)$$

the output signal can be regarded as being independent of frequency. Similar expressions are derived for the R", C integrating network and it is concluded that the error caused by the frequency effect increases inversely proportionately to the frequency of the measured magnetic field. However, if the frequency of the magnetic field is increased, the current in the pick-up is comparatively large and it induces a magnetic field H_n which is directed against the measured field H.

The ratio of the induced and the measured fields for the case of L', R integrating network is expressed by

Card 3/5

The induction method of ...

$$\frac{H_{in}}{H_m} = \frac{nL'}{(nL' + L)\sqrt{1 + \left[\frac{r}{\omega(nL + L)}\right]^2}} \qquad (11)$$

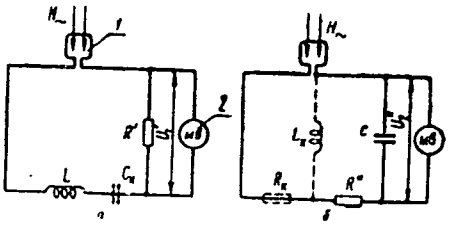
from which it is seen that for $nL' \ll L$ the influence of the induced magnetic field can be disregarded. On the other hand in the case of the R" C integrating network there exists a limiting frequency above which the value of the secondary magnetic field becomes prohibitive. The frequency error at low frequencies can be reduced by introducing correction elements C_K for the first integrating circuit and and inductance L_K and resistance R_K for the second circuit.

Card 4/5

The induction method of ....

An instrument based on the above principle was investigated experimentally. The instrument had a pick-up consisting of 15 turns of 0.05 mm diameter wire, which was wound on a frame of 0.5 cm^2. The inductance of the pick-up was 2.5 μhenries. The instrument was provided with a compensating circuit. The investigated magnetic field was produced in the air gap of a small electromagnet. It was found that the errors of measurement over the frequency range 0.3 - 100 kc/s did not exceed 5% (even if the low-frequency correction network was not used). There are 1 figure and 4 Soviet-bloc references.

Figure:



Card 5/5

S/024/62/000/002/010/012
E140/E135

9,4370

AUTHORS: Mazurov, M.Ye., and Prudnikov, I.N. (Moscow)

TITLE: Multiplier using three-electrode Hall-effect device

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.2, 1962, 148-155

TEXT: Derivation of equations and circuit considerations on the use of three-electrode Hall-effect devices as analogue multipliers. The principal advantage is the existence of a common point for the input and output circuits. The sensitivity is half that of the normal Hall-effect device. A.A.Kharkevich suggested the subject matter of this investigation. There are 7 figures and 1 table.

SUBMITTED: May 23, 1961

Card 1/1

MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Amplitude modulation utilizing the Hall effect. Radiotekh. i elektron. 7 no.10:1720-1729 O'62. (MIRA 15:10)
(Modulation (Electronics)) (Radio) (Hall effect)

MAZUROV, M.Ye.

Concerning some special operating features of diode limiters of instantaneous voltage values. Radiotekhnika 17 no.9:68-74 S '62. (MIRA 15:9)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Electric networks)

S/103/62/023/010/005/008
D201/D308

24.7000

AUTHOR: Mazurov, M. Ye. (Moscow)

TITLE: Some applications of galvanomagnetic effects in semiconductors

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 10, 1962, 1352-1361

TEXT: A survey, based mostly on Russian literature of the possibilities of designing high-quality quadratic detectors and function multipliers based on the Hall effect and the 'quadratic effect' (Gauss effect) in semiconductors. Circuit diagrams of various types of detectors and multipliers are given and their respective merits discussed. The frequency range of Hall effect multiplier operation is stated to be from 0 to 10^{10} - 10^{12} c/s. The effect of the change of the semiconductor resistance in a magnetic field is called the Pikus effect based on the fact that in a semiconductor with current carriers of opposite signs there is an additional increase of the resistivity due to changes in the carrier

Card 1/2

Some applications of ...

concentration under the effect of current flow (G. Ye. Pikus, Zh. tekhn. fiz., v. 26, no. 1, 1956). O. V. Sorokin is mentioned for his contributions in the field. There are 8 figures.

SUBMITTED: March 3, 1962

Card 2/2

ANDREYEV, V.S.; MAZUROV, M.Ye.

Some causes for the appearance of parasitic phase modulation in multistage frequency multipliers. Elektrosviaz' 17 no.4:10-19 Ap '63. (MIRA 16:4)

(Frequency multipliers)

MAZUROV, M.Ye.

Device for measuring variable magnetic fields. Prib. i tekh. eksp. 8 no.4:146-148 Jl-Ag '63. (MIRA 16:12)

1. Moskovskiy elektrotekhnicheskiy institut svyazi.

MAZUROV, M.Ye.; PRUDNIKOV, I.N.

Electric current and voltage multiplier based on the Hall effect.
Prib. i tekh. eksp. 9 no.1:124-127 Ja-F '64. (MIRA 17:4)

1. Moskovskiy elektrotekhnicheskiy institut stali.

L 25923-65 EWA(h)/EWT(1) Peb

ACCESSION NR: AP5003852 S/0106/65/000/001/0023/0031

AUTHOR: Andreyev, V. S.; Mazurov, M. Ye.

13
B

TITLE: Experimental investigation of the causes of 1-f phase modulation in frequency multipliers [Report at the All-Union Conference of NTORiE, 9 May 63]

SOURCE: Elektrosvyaz', no. 1, 1965, 23-31

TOPIC TAGS: frequency multiplier, spurious phase modulation

ABSTRACT: Results are reported of an experimental investigation of the effect of various factors on the spurious 1-f (mostly a-f) phase modulation (PM) in electron-tube and transistorized frequency multipliers operating in class C; a single oscillatory circuit tuned to the output frequency serves as a load. These causes of the spurious PM are listed: (a) superimposed 1-f noise; (b) presence of spurious components at the input whose frequencies are close to the signal frequency or its harmonics; (c) presence of a spurious AM in the input signal;

Card 1/2

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ACCESSION NR: AP5003852

(d) effect of the applied voltage on the collector-junction capacitance in transistors. These conclusions are drawn from the experimental data: (1) In electron-tube multipliers, the above spurious factors can be reduced by careful shielding, eliminating the supply-power ripple, operating the heaters on d-c, using high-Q circuits, employing a lower overall frequency-multiplication ratio; the spurious components should be attenuated by 80 db in order to keep the frequency deviation about 1 cps; (2) In transistor multipliers, apparently a compromise value of the circuit Q-factor should be used; recommended are: (a) the use of higher collector voltages; (b) the use of higher-frequency transistors with a small C_c; (c) the use of top connection of the oscillatory circuit. Orig. art. has: 10 figures and 8 formulas.

ASSOCIATION: none

SUBMITTED: 28May64 ENCL: 00 SUB CODE: EC

NO REF SOV: 006 OTHER: 000

Card 2/2

[illegible]

[illegible]ment of low phase modulation using Lissajous figures. Elektro- [illegible] (MIRA 18:7)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001033210005-6"

L 23183-66 EWT(1)/EWA(h)
ACC NR: AP6004351 SOURCE CODE: UR/0108/65/020/010/0042/0049

45
B

AUTHOR: Mazurov, M. Ye. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Broadband harmonic frequency dividers[25] and multipliers[25]

SOURCE: Radiotekhnika, v. 20, no. 10, 1965, 42-49

TOPIC TAGS: frequency divider, frequency multiplication, electronic circuit, signal frequency, frequency band, frequency control, electron tube

ABSTRACT: Circuits for frequency division and multiplication are suggested which are based on transferring the input-signal spectrum to a higher frequency range. Then, the relative input frequency band becomes narrower which permits using conventional dividers and multipliers for frequency changing. This principle briefly discussed and illustrated by block diagrams has been experimentally verified with these results: (1) An electron-tube circuit was able to divide frequency by 2 within a 300—3500-cps band with a relative lock-in band of about $\alpha = 10$ (usually, $\alpha = 0.1$); (2) An experimental multiplying circuit, operating within the same band, had $\alpha = 10$

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ACC NR: AP6004351

(usually, $\alpha = 0.2$); (3) A frequency halver operating at 150 kc exhibited $\alpha = 1$ (conventionally, $\alpha = 0.1$). Here, $\alpha = \Delta f / f$, where Δf is the lock-in band and f is the lower frequency to be divided. The above circuits permit much wider working frequency bands and better phase stability than the conventional circuits. Orig. art. has: 6 figures and 21 formulas.

SUB CODE: 09 / SUBM DATE: 05May65 / ORIG REF: 001 / OTH REF: 004

Card 2/2

L 25915-66 EWT(d)

ACC NR: AP6016669 SOURCE CODE: UR/0106/65/000/007/0042/0048

AUTHOR: Mazurov, M. Ye.

ORG: none

TITLE: Measurement of small phase modulation by the Lissajou figure method

SOURCE: Elektrosvyaz', no. 7, 1965, 42-48

TOPIC TAGS: phase modulation, signal modulation, electron tube

ABSTRACT: The author describes a highly sensitive method of measuring small phase modulation with the aid of Lissajou figures, suitable for use over a broad frequency range. The method is based on the increase in the width of Lissajou-figure lines in the presence of phase modulation of the investigated signal. The advantage of this method is that it can be used for measurements over a broad range of frequencies of the fundamental and modulated signals, limited only by the working frequency band of the electron-beam tube. The formulas derived for this purpose were found to be in agreement with experiment. Techniques of further increasing the sensitivity are pointed out; thus, the phase modulation index should be reckoned with respect to the line-width of the Lissajou figure and the constant component of the phase shift between

UDC: 621.307.353

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L 25915-66

ACC NR: AP6016669

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input and output voltages should be so selected that the center of the Lissajou-figure line would pass through the center of the screen. The method described was used to measure the index of small phase modulation in the frequency band of from 20 cps to 20 kilo-cps. The upper boundary of the frequency band was limited only by the frequency properties of the diode limiters of instantaneous voltage, used to eliminate overvoltages of amplifiers and electron-beam tubes. The use of transistor-triode type limiters of this kind enhances the frequency limit to one megacycle. Orig. art. has: 7 figures and 22 formulas. [JPRS]

SUB CODE: 09 / SUBM DATE: 07Oct64 / ORIG REF: 008 / OTH REF: 001

Card 2/2 BKC

L 07800-67

ACC NR: AP6033678 SOURCE CODE: UR/0108/66/021/010/0060/0067

AUTHOR: Mazurov, M. Ye. (Active member)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Investigation of rectifying properties of contacts in Hall generators

SOURCE: Radiotekhnika, v. 21, no. 10, 1966, 60-67

TOPIC TAGS: Hall generator, Hall generator contact, semiconductor rectifier

ABSTRACT: A theoretical and experimental investigation of properties of metal-semiconductor contacts in Hall generators is offered because (a) imperfect contacts cause errors in Hall-type function multipliers and (b) no published information re this subject is known to the author. The imperfect contacts are responsible for spurious emf at the Hall-generator output which has a linear and nonlinear components. The linear component can be eliminated by a special compensating resistor. The nonlinear component is calculated by expanding the corresponding formula into a Taylor series (d-c supply) or a Fourier series (a-c supply). The contact-imperfection-caused errors were investigated experimentally on n-Ge, InSb, and InAs Hall generators at a frequency of 1000 kc and its harmonics (2, 3, 4 kc). It was found that the error occurring in InSb and InAs generators is considerably smaller than

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L 07800-67
ACC NR: AP6033678

that of n-Ge generator. To reduce the error, these measures are recommended: lowering the maximum current, better contact-soldering technique, selection of generators with minimal spurious voltages. Orig. art. has: 8 figures, 16 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: 10Feb65 / ORIG REF: 003 / OTH REF: 001
ATD PRESS: 5101

Card 2/2 KS

L 08058-67
ACC NR: AP6019726 SOURCE CODE: UR/0108/66/021/006/0072/0073

AUTHOR: Andreyev, V. S. (Active member of the society); Mazurov, M. Ye. (Active member of the society)

ORG: Scientific and Technical Society of Radio Engineering and Electrocommunication im. A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Reducing spurious AM in frequency multipliers

SOURCE: Radiotekhnika, v. 21, no. 6, 1966, 72-73

TOPIC TAGS: frequency ~~multiplier~~ multiplication, amplitude modulation

ABSTRACT: It is theoretically possible to attain infinite reduction of spurious AM in frequency multipliers by using band-pass filters in their load circuits; the passband should be located between the (n – 1)th and the (n + 1)th harmonics of the

Card 1/2 UDC: 621.376.22

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ACC NR: AP6019726

input signal; outside this band, the attenuation should rise abruptly to infinity. Practically, m-section compound electric filters, mechanical or quartz filters satisfy the above requirements. Oscillograms are shown which demonstrate that an electromechanical filter makes possible a 100-fold frequency multiplication in one stage without appreciable spurious AM. Orig. art. has: 2 figures and 5 formulas.

SUB CODE: 09 / SUBM DATE: 07Oct64

Card 2/2

MAZUROV, N.N.; PLOTNIKOV, P.A., nauchn. red.; YETON, L.L., red. izd-va [deceased]; VAKHTINA, Ye.F., tekhn. red.

[Course in surveying for builders] Kurs geodezii dlia stroitelei; uchebnoe posobie. Sverdlovsk. Izd. UPI. No.1.[Geometric methods of surveying] Geometricheskie sposoby s"emki. 1963. 136 p. (MIRA 17:4)

MAZUROV, P.N.

Machining gears for a switching locomitive with 750 hp. rating. Biul.-tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.8:34-35 '62. (MIRA 15:7)

(Machine tools)

MAZUROV, S.M.; POSVOL'SKIY, M.V.; YANOVSKIY, V.V.

Research in the field of obtaining new heavy liquids for analyzing spore-pollen, diatoms, and minerals. Razved.i okh.nedr 21 no.6: 16-20 N-D '55. (MLRA 9:12)

(Halides) (Mineralogy, Determinative) (Paleobotany)

MAZUROV, S.M.; DRUZHININ, I.P.

Obtaining and using the M-25 liquid for extracting heavy fractions from sedimentary rocks. Zap. Vses. min. ob-va 87 no.4:508-511 '58. (MIRA 12:1)

(Rocks, Sedimentary)

ZONIS, Semen Aleksandrovich; MAZUROV, Sergey Mikhaylovich; KHAVIN, Z.Ya., redaktor; ERLIKH, Ye.Ya., tekhnicheskiy redaktor

[Lecture experiments and demonstration materials in organic chemistry] Lektsionnye opyty i demonstratsionnye materialy po organicheskoi khimii. Pod red. B.N.Dolgova. Leningrad, Gos.nauchno-tekhn. izd-vo khim. lit-ry, 1956. 508 p. (MLRA 9:8)
(Chemistry, Organic--Experiments)

ZONIS, Semen Aleksandrovich; MAZUROV, Sergey Mikhaylovich; BEREZIN, B.I., red.; ZAKHARIKOVA, Ye.I., red.izd-va; GARINA, T.D., tekhn. red.

[Laboratory and lecture experiments and demonstration materials in organic chemistry] Laboratorno-lektsionnye opyty i demonstratsionnye materialy po organicheskoi khimii. Izd.2., ispr. i dop. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 720 p. (MIRA 15:3)

(Chemistry, Organic--Laboratory manuals)

VOROB'YEV, D.D., inzhener; MAZUROV, V.A., inzhener.

Method for blasting holes in using hydraulic stemming.
Bezop.truda v prom. 1 no.8:13-14 Ag '57. (MLRA 10:8)

1.Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut.
(Coal mines and mining)

MAZUROV, V.A., gornyy inzh.

Blasting to loosen the coal seam for hydraulic mining. Ugol' 33 no.6:11-16 Je '58. (MIRA 11:6)
(Hydraulic mining) (Blasting)

MAZUROV, V. A., Candidate Tech Sci (diss) -- "Investigation of the hydro-explosive method of coal cutting, and establishing cutting parameters". Moscow, 1959. 20 pp (Acad Sci USSR, Inst of Mining), 150 copies (KL, No 24, 1959, 138)

MAZUROV, V.A., kand.tekhn.nauk

Breaking parameters in hydraulic coal mining. Nauch.soob.Inst. gor.dela 5:32-38 '60. (MIRA 15:1)
(Coal mines and mining)
(Blasting)

ISHCHUK, I.G., gornyy inzh.; MAZUROV, V.A., kand.tekhn.nauk

Effectiveness of loosening coal blocks and controlling dust by means of water infusion into the seam in stoping operations. Ugol' 35 no.8:43-47 Ag '60. (MIRA 13:9)

(Stoping (Mining))

MAZUROV, V.A., kand.tekhn.nauk

Breaking-off parameters in the hydraulic and blasting system of coal mining. Ugol' 36 no.11:34-37 N '61. (MIRA 14:11)

1. Institut gornogo dela imeni A.A. Skochinskogo.
(Hydraulic mining) (Blasting)

YEVSTROPOV, [illegible], kand. tekhn. nauk; MAZUROV, V.A., [illegible] tekhn. [illegible], nauk, red.

[Blasting in construction; the dynamics of blasting in soil and rock] Vzryvnye raboty v stroitel'stve; dinamika vzryva v gruntakh i gornykh porodakh. Moskva, Stroiizdat, 1965. 206 p. (MIRA 18:12)

L 07355-67
ACC NR: AP6012178 (A) SOURCE CODE: UR/0413/66/000/007/0118/0118

AUTHORS: Bekker, D. I.; Mazurov, V. A.; Cherkasheninov, V. I. 23

ORG: none

TITLE: A sealing device for the subsurface mining storage of gas and petroleum products. Class 81, No. 180521 [announced by All-Union Scientific Research Institute of Gasprom SSSR for Subsurface Gassification of Coal [Vsesoyuznyy nauchno-issledovatel'skiy institut podzemnoy gazifikatsii ugley Gazproma SSSR)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 118

TOPIC TAGS: underground facility, gas pressure, natural gas, petroleum product, fuel storage, storage tank

ABSTRACT: This Author Certificate presents a sealing device for the subsurface mining storage of gas and petroleum products. To utilize the pressure of the stored product for additional strengthening of the structure, the latter is made in the form of a spherical or cylindrical shell (see Fig. 1). The structure is provided with a tension mechanism and bears against a strengthening insert placed on the

Card 1/2 UDC: 622.56.002.54:622.692.24

L 07355-67
ACC NR: AP6012178

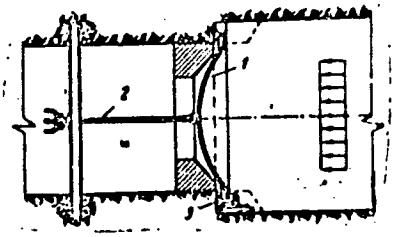

Fig. 1. 1 - shell; 2 - tension mechanism; 3 - strengthening insert

protrusions in the walls of the storage tank. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 31Aug64

Card 2/2 afs

MAZUROV, V.D.

Example of a Frobenius group with an unsolvable complementary factor. Mat. zap. Ural. mat. ob-va UrGu 4 no.1:60-62 '63. (MIRA 17:9)

MAZUROV, V. F.

PA 20/49T56

USSR/Engineering Sep 48
Water Cooling Towers
Ice Protection

"New Method for Preventing Icing in Cooling Towers," V. F. Mazurov, Engr, 1 p

"Elek Stants" No 9

Describes how water spray was used to prevent ice forming on cooling tower.

[redacted] 20/49T56

BLYAKHMAN, L.S. (Leningrad); MAZUROV, V.F. (Rostov-na-Donu); MOISEYEV, A.V. (Krasnodar); OMAROV, A.M. (Moskva); SMIRNITSKIY, Ye.K. (Sverdlovsk); POLYAKOVA, N., red.

[Economics of socialist industry; a popular textbook] Ekonomika sotsialisticheskoi promyshlennosti; populiarnoe posobie. Moskva, Politizdat, 1965. 287 p.
(MIRA 18:8)

BLYAKHMAN, L.S.; MAZUROV, V.F.; MOISEYEV, A.V.; OMAROV, A.M.; SMIRNITSKIY, Ye.K.PODGORNOVA, V., red.; TROYANOVSKAYA, N., tekhn. red.

[Economics of socialist industry; popular textbook]Ekonomika sotsialisticheskoi promyshlennosti; populiarnoe uchebnoe posobie. Moskva, Gospolitizdat, 1962. 302 p. (MIRA15:9)
(Industrial management)

BLYAKHMAN, L.S.; MAZUROV, V.F.; MOISEYEV, A.V.[Moisieiev, A.V.]; OMAROV, A.M.; SMIRNITSKIY, E.K.[Smyrnits'kyi, IE.K.]; CHIGIRIK, V.V.[Chyhyryk, V.V.], red.; KOPYTKOVA, N.K., tekhn. red.; LEVCHENKO, O.K., tekhn. red.

[Economics of socialist industry] Ekonomika sotsialistychnoi promyslovosti; populiarnyi navchal'nyi posibnyk. Kyiv, Derzhpolitvydav URSR, 1963. 292 p. (MIRA 16:7)
(Industrial organization)

BLYAKHMAN, L.S. (Leningrad); MAZUROV, V.F. (Rostov-na-Donu); MOISEYEV, A.V.(Krasnodar); OMAROV, A.M.(Moskva); SMIRNITSKIY, Ye.K.(Sverdlovsk); PODGORNOVA, V., red.

[Economics of socialist industry; a popular textbook] Ekonomika sotsialisticheskoi promyshlennosti; populiarnoe uchebnoe posobie. Izd.2., dop. i perer. Moskva, Politizdat, 1964. 302 p. (MIRA 17:7)

PHASE I BOOK EXPLOITATION SOV/3767

Orlov, G. M., V. L. Lesnichenko, U. B. Utemisov, V. I. Mazurov, and K. F. Ignatova

Izgotovleniye liteynykh form pressovaniyem pod bol'shim davleniyem (High-Pressure Method of Making Foundry Molds) Moscow, 1958. 28 p. (Series: Peredovoy opyt proizvodstva. Ser. "Tekhnologiya mashinostroyeniya," vyp. 31, Liteynoye proizvodstvo) 4,000 copies printed.

Sponsoring Agencies: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, and Moscow Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo.

Ed.: L. S. Konstantinov; Reviewer: L. M. Garmash; Tech. Ed.: R. A. Sukhareva.

PURPOSE: This booklet is intended for metallurgists specializing in the production of castings.

COVERAGE: This booklet deals with the results of experimental investigations undertaken by NIITAvtoprom of the process of compression molding under high pressure. Practical recommendations are presented, and an investigation of the basic production parameters conducted by the authors at NIITAvtoprom

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and workers at MAMI is described. In the Introduction an outline of experimental work done by NIITAvtoprom since 1956 on the production of precision castings is presented. No personalities are mentioned. There are 14 references: 6 Soviet, 7 English, and 1 German.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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ORLOV, G.M.; IGNATOVA, K.F.; LESNICHENKO, V.L.; MAZUROV, V.I.; UTEMISOV, U.B.

Progressive molding method. Lit.proizv. no.2:6-8 F '60. (MIRA 13:5)

(Molding (Founding))

MAZUROV, V.I.; OREKHOVICH, V.N.

Comparative study of soluble collagenlike proteins [with summary in English]. Biokhimiia 24 no.1:33-38 Ja-F '59. (MIRA 12:4)

1. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.
(PROTEINS,
soluble collagen-like proteins, comparison (Rus))

17(3)
AUTHORS: Mazurov, V. I., Orekhovich, V. N., Member, AMS USSR

SOV/20-125-2-48/64

TITLE: Inclusion of the Radioactive Glycine B Into the α- and β-Components of Procollagene (Vklyucheniye radioaktivnogo glitsina v α- i β-komponenty prokollagena)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 408-410 (USSR)

ABSTRACT: The procollagene molecule in the skin of rats decomposes with the action of urea, KCNS, and heating into two protein components (Ref 1). The latter represent two maxima in the ultracentrifuge. The lighter component (α) has a molecular weight of 125,000 the heavier one (β) has a molecular weight of 295,000. Since the weight ratio α : β in the procollagene molecule was 1 : 1, it was assumed that this molecule consists of two α particles and one β particle (Ref 2). Meanwhile, the components mentioned have been investigated rather well from a physicochemical point of view. Yet it cannot be maintained absolutely according to these data that the native procollagene molecule represents a complex of two structural entities. Therefore the problem mentioned in the title was interesting

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with respect to the rate of influence of both components.

White rats were intraperitoneally injected with C^{14} glycine marked on carboxyl. The animals were killed 3, 6, 12, 18, 24, 48, and 144 hours after the injection. It was proved that the inclusion intensity of C^{14} into the α-component is about three times as strong as in the case of the β-component (Fig 1). The arithmetic mean value of the radioactivity of both components was about equal to the activity of the whole preparation α + β. Apparently, this confirms also the above-mentioned weight ratio of 1 : 1 of the components. Figure 1 further indicates that the inclusion intensity of C^{14} attains a rather high level 3 hours after the injection. The highest degree of radioactivity is attained after 48 hours. In the α-component it was attained after 18 hours and in the β-component after 48 hours. In the course of the experiment this intensity of the α-component was 3 to 4 times as high as that of the β-component. The authors are not able to explain this difference. They suppose that there is an

Inclusion of the Radioactive Glycine B Into the α- and β-Components of Procollagene

SOV/20-125-2-48/64

independent synthesis of both components within the cell. The results obtained are insufficient for drawing definite conclusions on the nature of these components. They indicate, however, that certain sections of the polypeptide chain of the procollagene molecule are not equivalent as far as their biological properties are concerned. There are 1 figure and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR (Institute of Biological and Medical Chemistry of the Academy of Medical Sciences, USSR)

SUBMITTED: December 9, 1958

Card 3/3

MAZUROV, V. I., CAND BIO SCI, COMPARATIVE ~~INVESTIGATION~~ study OF SOLUBLE COLLAGENIC PROTEINS OF CONNECTIVE TISSUE." MOSCOW, 1960. (ACAD MED SCI USSR). (KL, 2-61, 204).

MAZUROV, V.I.; OREKHOVICH, V.N.

Studying the α- and β components of procollagens. Biokhimiia 25 no.5:814-824 S-O '60. (MIRA 14:1)

1. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow.
(PROCOLLAGEN)

MAZUROV, V.I.

Biosynthesis and fibrillogenesis of collagen proteins. Vop.med. khim. 8 no.1:3-16 Ja-F '62. (MIRA 15:11)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

(COLLAGEN) (PROTEINS)

SMIRNOV, V.N.; MAZUROV, V.I.; GONCHAROVA, V.P.; SMIRNOV, M.N.; SHKARENKOVA, L.

RNA and collagen synthesis by fibroblasts during the formation of a connective tissue neoplasm. Vop.med.khim. 10 no.3:305-310 My-Je '64. (MIRA 18:2)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR i Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

MAZUROV, V.I.; OREKHOVICH, V.N.

Unusual effect of actinomycin on the synthesis of [illegible] in the cartilage tissue of chick embryos. Dokl. AN S.S.S.R. [illegible] no.3:742-745 Ja '66. (MIRA 19:1)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.
2. Deystvitel'nyy chlen AMN SSSR (for Orekhovich). Submitted October 28, 1965.

MAZUROV, V.I.; ORKHOVICH, V.N.

Changes in the Nucleotide composition of fibroblast ribonucleic acid during the process of connective tissue regeneration. Vop. med. khim. 9 no.4:436-440 Jl-Ag '63 (MIRA 17:4)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR, Moskva.

MAZUROV, Ye.F.

Power losses in arc furnaces. Metallurg 8 no.12:20-21 D '63.
(MIRA 17:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

MAZUROV, Ye.F.; GNUCHEV, S.M.; SKRIPCHUK, V.S.; MARKIN, A.A.; LYALIN, Ye.S.

Sponge iron used as a charge material. Metallurg 9 no.11:17-19 N '64. (MIRA 18:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P.Bardina.

ACC NR: AP7003871 (N) SOURCE CODE: UR/0133/67/000/001/0044/0044

AUTHOR: Gnuchev, S.M.; Salautin, V.A.; Klochkova, Z.V.; Mazurov, Ye.F.

ORG: none

TITLE: Effect of some processes during steel melting in a 100-ton arc furnace

SOURCE: Stal', no. 1, 1967, 44

TOPIC TAGS: ~~silicon~~ steel production, silicon steel, ~~technology~~ metal melting, arc furnace, steel manufacture process

ABSTRACT: A technological process of making silicon steel in an arc furnace has been developed by the Central Scientific Research Institute of Ferrous Metallurgy im. Bardin in cooperation with the Novolipetsk Metallurgical Plant. The process combines melt-down and oxidizing periods and eliminates ore addition after melting of charge. A water-cooled oxygen lance is used for metal blowing and electromagnetic stirring of melted metal. Nonmetallic impurities are removed by slag treatment while the metal is tapped into the ladle. Oxygen is blown into the bath for 10—15 min when the carbon content reaches 0.08—0.12%. The process decreases the refining period to 1 hr and reduces the oxygen content closer to the equilibrium state and the sulfur content to 0.003%. [AZ]

SUB CODE: 11, 13/ SUBM DATE: none/ ATD PRESS: 5114

Card 1/1 UDC: 669.187.2.001.5

L 16426-66 EEC(k)-2/EWA(h)/EWP(k)/EWT(1)/FBD/T SCTB/IJP(c) WG
ACC NR: AP6003564 SOURCE CODE: UR/0109/66/011/001/0152/0154

AUTHOR: Grigor'yants, V. V.; Mazurov, Yu. A.

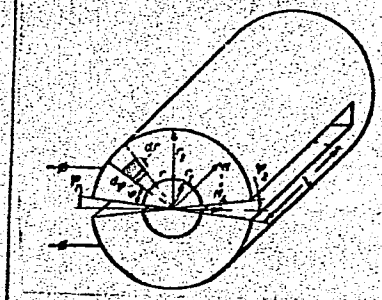
ORG: none

TITLE: Resonator for tuning maser by means of Zeeman modulation

SOURCE: Radiotekhnika i elektronika, v. 11, no. 1, 1966, 152-154

TOPIC TAGS: maser, maser tuning, Zeeman maser tuning

ABSTRACT: The present use of brass or copper resonators essentially affects the relative frequency stability of a maser because these resonators have a rather poor temperature coefficient of frequency as compared to that of invar resonators. To remedy this situation, a new design (see figure) is suggested in which the resonator can be made from invar, steel or other magnetic material and yet the maser can be magnetically tuned. The effect is achieved by a split resonator, the slits extending longitudinally from one end to within a few millimeters from the other end. This design permits using the resonators as a single-turn coil for producing, inside the resonator,



Card 1/2 UDC: 621.378.33

a magnetic field perpendicular to the resonator axis. A formula for calculating the field is presented. These three resonators were experimentally investigated:

	r_2	r_1	ℓ	Gap	Material
1	1.4 cm	0.5 cm	5 cm	0.4 mm	steel
2	1.25	0.5	5	2	steel
3	1.4	0.5	5	0.4	brass

Plots of magnetic field vs. modulating current, resonator length (distribution), and angle with respect to the slit plane are presented. It was found that the longitudinal slit practically does not affect the resonator Q-factor at its principal mode and simultaneously suppresses spurious modes. Orig. art. has: 4 figures and 4 formulas. [03]

SUB CODE: 20 / SUBM DATE: 31Mar65 / ATD PRESS: 4205

Card 2/2

MAZUROVA, A. A.: Master Tech Sci (diss) -- "The application of the autoclave method to the processing of sulfide gold ores and concentrates". Moscow, 19??. 18 pp (Min Higher Educ USSR, Moscow Inst of Nonferrous Metals and Gold im M. I. Kalinin), 150 copies (KL, No 5, 1959, 150)

MAZUROVA, A.A.; PLAKSIN, I.N.

Leaching in autoclaves under oxygen pressure of gold-containing pyrite-arsenic concentrates. Izv. vys. uchab. zav.; tsvet. met. no.2:100-107 '58. (MIRA 11:8)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra metallurgii blagorodnykh metallov.
(Leaching) (Gold ores)

PLAKSIN, I.N.; MAZUROVA, A.A.

Studying the process of arsenical pyrite oxidation by oxygen under pressure at high temperatures and in alkaline media. Izv.vys.ucheb.zav.; tsvet.met. 2 no.4:97-105 '59. (MIRA 13:1)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra metallurgii blagorodnykh metallov.
(Sulfides--Metallurgy) (Arsenic)

MAZUROVA, K.A., GINDIN, L.M.

Palladium extraction with tri-n-octylamine hydrochloride. Zhur. neorg. khim. 10 no.2:489-496 F '65. (MIRA 18:11)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR. Submitted July 29, 1963.

GINDIN, L.M.; IVANOVA, S.N.; MAZUROVA, A.A.; MIRONOVA, L.Ya.

Extraction of platinum metals with salts of quaternary ammonium bases. Zhur. neorg. khim. 10 no.2:502-506 F '65.
(MIRA 18:11)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR. Submitted May 12, 1964.

MAZUROVA, A.A.; GINDIN, L.M.

Extraction of hydrochloric acid with tri-n-octylamine.
Zhur.neorg.khim. 10 no.11:2559-2563 N '65.
(MIRA 18:12)

1. Institut neorganicheskoy khimii Sibirskogo otdeleniya AN SSSR. Submitted April 11, 1964.

MEDYANTSEV, A.N., kand. tekhn. nauk; IGFIS, M.A., inzh.; MAZUROVA, A.I., inzh.

Graphic distribution of displacements and deformations of the earth's surface above mine workings in the Donets Basin. [Trudy] VNIMI no.47:140-154 '62 (MIRA17:7)

MUN, A.I.; MAZUROVA, A.L.; MOROZOV, N.P.

Occurrence of microelements in thermal and cold sources of Kazakhstan. Trudy Inst.khim.nauk AN Kazakh.SSR 10:70-87 '64.

(MIRA 17:10)

MAZUROVA, A.M., assistent

Electrocardiographic and ballistocardiographic changes in chronic tonsillitis. Uch. zap. Stavr. gos. med. inst. 12: 347-348 '63.

Dynamics of endotheliosis in chronic tonsillitis with lesions of the heart. Ibid.:353 (MIRA 17:9)

1. Kafedra bolezney ukha, gorla i nosa (zav. prof. I.M. Sobol') i kafedra faul'tetskoy terapii (zav. dotsent N.A. Aushev) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

AUSHEV , N.A., dots., MAZUROVA, A.M.

Acute caterrhal pancreatitis as a complication of influenza.
Vrach.delo no.9:983-985 S'58 (MIRA 11:10)

1. Kafedra fakul'tetskoy terapii (zav.-prof. S.P. Zavodskoy)
Stavropol'skogo meditsinskogo instituta.
(INFLUENZA)
(PANCREAS--DISEASES)

AUSHEV, N.A., dotsent; MAZUROVA, A.M.

Use of intravenous infusions of bismuth carbonate. Vrach.delo no.11:147-148 N '62. (MIRA 16:2)

1. Kafedra fakul'tetskoy terapii (zav. - dotsent N.A. Aushev) Stavropol'skogo meditsinskogo instituta.
(BISMUTH—CARBONATE) (INJECTIONS, INTRAVENOUS)

ZAGRANICHNYY, V.I.; POLYAKOVA, Z.A.; Prinimali uchastiye: MAZUROVA, G.Ye.; SHISHKINA, S.S.

Solubility in water of melamine and some of its derivatives.
Khim.prom. no.9:692-694 S '63. (MIRA 16:12)

ALEKHIN, S.N.; BORZASEKOV, V.F.; MAZUROVA, L.G.

Underground waters in Tertiary deposits of Kopet-Dag. Izv. AN Turk. SSR. Ser. fiz.-tekh., khim. i geol.nauk no.5:92-98 '61. (MIRA 14:11)

1. Institut geologii AN Turkmenskoy SSR.
(Kopet-Dag--Water, Underground)

GAYDAMAKA, M.G., MAZUROVA, L.P.

Method of tissue culture without plasma. Vop.virus 3 no.4:244-247 Jl-Ag '58. (MIRA 11:9)
(TISSUE CULTURE)

ACC NR: AP6034526 SOURCE CODE: UR/0016/66/000/010/0117/0120

AUTHOR: Mazurova, L. P.; Martishin, M. Ye.

ORG: Central Scientific Research Institute for Disinfection, Moscow (Tsentral'nyy nauchno-issledovatel'skiy dezinfektsionnyy institut)

TITLE: Bactericidal activity of propriolactone fog

SOURCE: Zhurnal mikrobiologii, epidemiologii, i immunobiologii, no. 10, 1966, 117-120

TOPIC TAGS: bactericide, bacteria, propriolactone, E. Coli, S. aureus

ABSTRACT: Propriolactone in a finely dispersed fog (d_m = 1.3 μ) was found to have high bactericidal and sporicidal activity in experiments using a 0.5 m^3 aerosol chamber. *E. coli* was killed on artificially infected surfaces after a five-minute exposure to a 1.5 g/m^3 concentration of propriolactone. *S. aureus* was eliminated by 6 g/m^3 over a two-hr exposure, and 12 g/m^3 for two hr destroyed anthracoid spores.

[EL]

[WA-50; CBE No. 14]

SUB CODE: 06/ SUBM DATE: 28Mar66/ ORIG REF: 006/ OTH REF: 002

Card 1/1 UDC:615.3:547.476.1-014.173-017.77/79

MAZUROVA, N.I.; KAYDANOVSKAYA, S.I.

Results of examination of women who had been sources of gonorrheal infections. Vest.ven. i derm. 30 no.5:42-45 S-O '56. (MLRA 9:12)

1. Iz Novosibirskogo gorodskogo kozhno-venerologicheskogo dispansera (dir. F.I.Kolpakov, nauchnyy rukovoditel' - dotsent M.I.Khasin)
(GONORRHEA, diag.
latent gonorrhea in women as in sources of infect.)

MAZUROVA, N. N.

Category: USSR / Physical Chemistry - Electrochemistry B-12

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 30141

Author : Fayzullin F. F., Mazurova N. N.
Inst : Kazan' University
Title : Potentiographic Study of Cathodic Reduction of Oxide Films on Copper.

Orig Pub: Uch. zap. Kazansk. un-ta, 1956, 116, No 5, 73-76

Abstract: In continuing the previously published work (RZhKhim, 1957, 11358) a study was made, by the method of the potential versus time (φ, τ) curves, of cathodic reduction of the anodically formed oxide films on Cu, in 20% NaOH, at i = 0.4 a/dm^2 and 80°. It was found that in the case of cathodic reduction of the black oxide film the (φ, τ) curves show two prolonged φ stops (-0.13 and -0.32 v), and two short φ stops (-0.50 and -0.74 v), which occur before evolution of hydrogen. In the opinion of the authors the first two stops correspond to the reduction of CuO to Cu O and of Cu O to Cu, which is confirmed by the nature of the (φ, τ) curves of cathodic

Card : 1/2 -11-

MAZUROVA, S. M.; KHOZINSKIY, V. I.; ZEYBIL, V. B.; TSYPKIN, L. B.; PANTELEYEV, L. S.

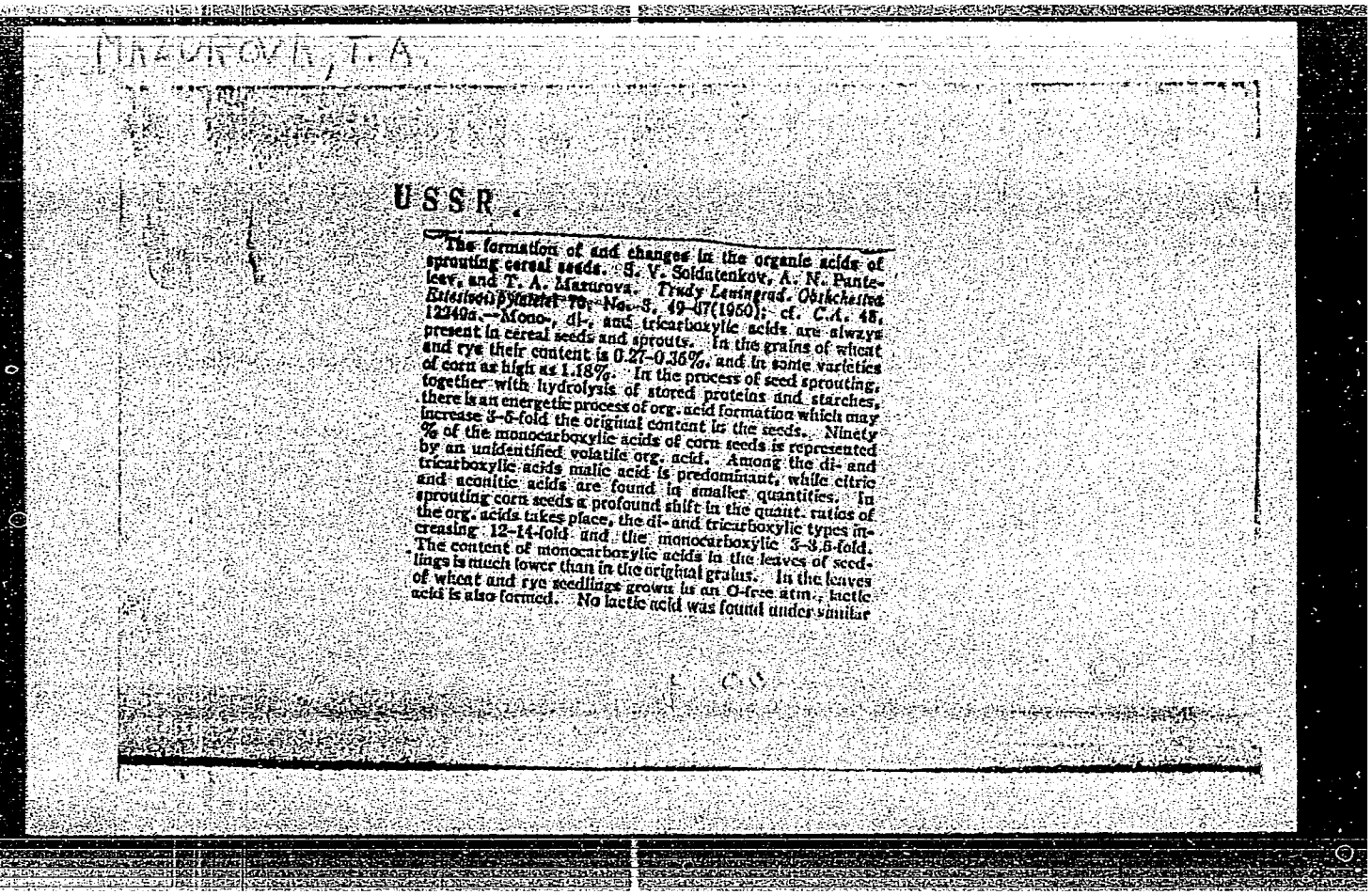
"Utilization of a New Diploid Cell Strain Derived from Human Embryo Lung Tissue for the Cultivation of Enteroviruses and Measles-Virus."

Report presented at the Symposium on Biological Standardization, Opatija, Yugoslavia, 24-26 Sep 63.

HOZINSKI, V.I.; SEYBIL, V.B.; TSYPKIN, L.B.; PANTELEEVA, N.S.; MAZUROVA, S.M.

Attempt to establish a diploid cell strain from human embryonic tissue and testing its sensitivity to some viruses. Acta virol. 8 no.5:454-458 S '64.

1. Institute of Poliomyelitis and Viral Encephalitides, U.S.S.R. Academy of Medical Sciences, Moscow.



MAZUROVA, T. A.

USSR

The formation of and changes in the organic acids of sprouting cereal seeds. S. V. Soldatenkov, A. N. Pantelev, and T. A. Mazurova. *Trudy Leningrad. Obshchestva Estestvoispytatelei* 70, No. 3, 49–67(1960); cf. *C.A.* 48, 12240a.—Mono-, di-, and tricarboxylic acids are always present in cereal seeds and sprouts. In the grains of wheat and rye their content is 0.27–0.36%, and in some varieties of corn as high as 1.18%. In the process of seed sprouting, together with hydrolysis of stored proteins and starches, there is an energetic process of org. acid formation which may increase 3–5-fold the original content in the seeds. Ninety % of the monocarboxylic acids of corn seeds is represented by an unidentified volatile org. acid. Among the di- and tricarboxylic acids malic acid is predominant, while citric and aconitic acids are found in smaller quantities. In sprouting corn seeds a profound shift in the quant. ratios of the org. acids takes place, the di- and tricarboxylic types increasing 12–14-fold and the monocarboxylic 3–3.5-fold. The content of monocarboxylic acids in the leaves of seedlings is much lower than in the original grains. In the leaves of wheat and rye seedlings grown in an O-free atm., lactic acid is also formed. No lactic acid was found under similar

conditions in the leaves of corn seedlings, but volatile monocarboxylic acid was found in the roots. In an O-free atm. dicarboxylic acids are not formed in seedlings or in leaves of adult plants. The process of normal respiration of higher plants is chemically represented as follows: $C_6H_{12}O_6 + O_2 =$ $COOHCH_2CHOHCOOH + CH_3OHCHO + H_2O$; $COOHCH_2CHOHCOOH + 3O_2 = 4CO_2 + 3H_2O$; $CH_3OHCHO + O_2 = CO_2 + 2H_2O$; and thus $C_6H_{12}O_6 + 6O_2 = 6CO_2 + 6H_2O$. Accordingly, in the first stage of plant sugar oxidation, malic acid and glycolaldehyde are formed. The fate of malic acid is a double one: (1) it becomes oxidized largely to $CO_2 + H_2O$, accumulating in the plant in its unchanged form to a minor extent only; (2) in the dark and in an atm. of CO_2 it may accumulate in the plant in large amts. Glycolaldehyde may (1) oxidize to CO_2 and H_2O; (2) become resynthesized into carbohydrates; and (3) oxidize to glycolic or oxalic acid. The formation of citric acid chemically is not directly assocd. with the process of respiration; it can be interpreted as the product of interaction between malic acid and glycolaldehyde oxidized to glycolic acid as per equation: $COOHCH_2CHOHCOOH + CH_2OHCOOH = COOHCH_2C(COOH)OHCH_2COOH + H_2O$.

C. B. S. Levine

SOLDATENKOV, S.V.; MAZUROVA, T.A.

Conversion of organic acids in growth and maturation of wheat seeds. Biokhimiia 19 no.3:349-356 My-Je '54. (MLRA 7:8)

1. Kafedra fiziologii rastenii Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova.
(ACIDS, organic, metab. in wheat)
(WHEAT, organic acids in)

MAZUROVA, T. A.

2

Met

The formation of organic acids during the sprouting of the seeds of leguminous plants. S. V. Soldatenkov and T. A. Mazurova. *Biokhimiya* 21, 573-6(1956).—The cereal and leguminous plants differ in the chem. compn. of their proteins, carbohydrates, org. acids, both in the leaves and in the seeds. The wheat grain contains 0.2-0.8% of org. acid, more than 50% of which is acetic acid; citric and malic acids together constitute 5-10%. The large bean, the small bean, and the pea seeds contain more acids than the cereal grains (0.8-2.12%). In the bean the volatile acid content is approx. 10%; citric acid in the wheat grain constitutes about 0.035%, in the small bean 1.22%, and in the large bean 0.48%, or more than 1/3 the total acid content. In cereal seed sprouts acetic acid constitutes approx. 60% of the total of the acids; in the sprouts of legumes not even a trace of this acid was found. Citric acid accumulates in the leaves of the legumes up to 4-5% on the dry basis, constituting 40% of the total of the acids. In the cereals citric acid constitutes only 1-2% of the total acid content. During the sprouting of cereal or leguminous seeds a marked transition from the state of dormancy to the state of activity occurs, and parallel with it there is an intense formation of org. acids and other differences appear. With the cereals the process of sprouting is accompanied by an accumulation (in the sprouts) of citric acid to 2 and 3 times its content in the grains. The reverse is true in the legumes, since there is an intense utilization of the citric acid of the seeds and the accumulation of this acid appears in the leaves in the later stages of the plant's development. Malic acid constitutes a very important factor in the metabolism of both the cereal and the leguminous plants. The highest rate of accumulation of malic acid in the legume occurs in the period of sprouting. The sprouts of cereals contain 37-53 times as much oxalic acid as do the seeds.

B. S. Levine

MIA SOLDATENKOV, S. V.

SOLDATENKOV, S.V.; MAZUROVA, T.A.

New acids as products of primary oxidation of sugars in leguminous plants [with English summary in insert]. Biokhimiia 21 no.6:652-662 N-D '56. (MIRA 10:7)

1. Kafedra fiziologii rasteniy Leningradskogo gosudarstvennogo universiteta imeni A.A.Zhdanova.
(LEGUMES) (ACIDS, ORGANIC) (SUGARS)

MAZUROVA, T.A.

SOLDATENKOV, S.V.; MAZUROVA, T.A.

Malonic acid in leguminous plants [with summary in English].
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